

## **The JFK Autopsy Materials: Twenty Conclusions after Nine Visits**

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[*Editor's note:* This is an expanded and revised version of a presentation for "Solving the Great American Murder Mystery" Symposium, which was held at Duquesne University 20-23 November 2003. The speaker, who is the leading student of the death of JFK in the world today, has elaborated on the formal paper that he submitted on that occasion for its appearance in this journal, while preserving the sequence of figures and photographs. The formal paper appears following this informal version as an appendix.]

"If you want to understand the present, study the past." —Baruch Spinoza

Over a doorway to National Archives I is this quote: "The past is prologue."

Although the source is not identified, the quote is actually from *The Tempest* by William Shakespeare. I passed through this doorway in 1993, when I first examined the JFK autopsy materials with Cyril Wecht. The quote reminds us why history might matter.

### **Introduction**

I examined the JFK autopsy materials at the National Archives (NARA) on four separate days in 1993, on two days in 1994, and on two days in 1995. This review included the photographs, X-rays, clothing, magic bullet, and two metal fragments removed from the skull. My last visit was on 12 April 2001. Nearly six years had passed since my eighth visit, during which time the Assassination Records Review Board (ARRB) had come and gone. During this six-year hiatus my initial findings had been published in two books: (1) *Assassination Science* (1998) and (2) *Murder in Dealey Plaza* (2000), both edited by

James Fetzer. Since then another book, *The Assassinations* (2003), edited by James DiEugenio and Lisa Pease, has carried one article (co-authored by Cyril H. Wecht, M.D., J.D.) on the JFK brain.

In this article, I shall focus on the most important findings from these visits and especially emphasize the remarkable discoveries made during the last visit. Almost each one of these findings, standing alone, makes a powerful case against *The Warren Report*. The two most crucial conclusions are (1) that the three remaining autopsy skull X-rays are almost certainly copies rather than originals—which leaves wide open the possibility of alteration—and (2) that grave doubt is cast on the authenticity of several of the autopsy photographs. Both of these results seriously undermine the conclusions of prior official investigations. On this fortieth observance, I shall close with some personal reflections.

**The White Patch at the Back of the Skull.** In books, the posterior part JFK's skull X-rays (the lateral ones) looks very white, especially when compared to the pre-mortem X-ray (Figure 1).

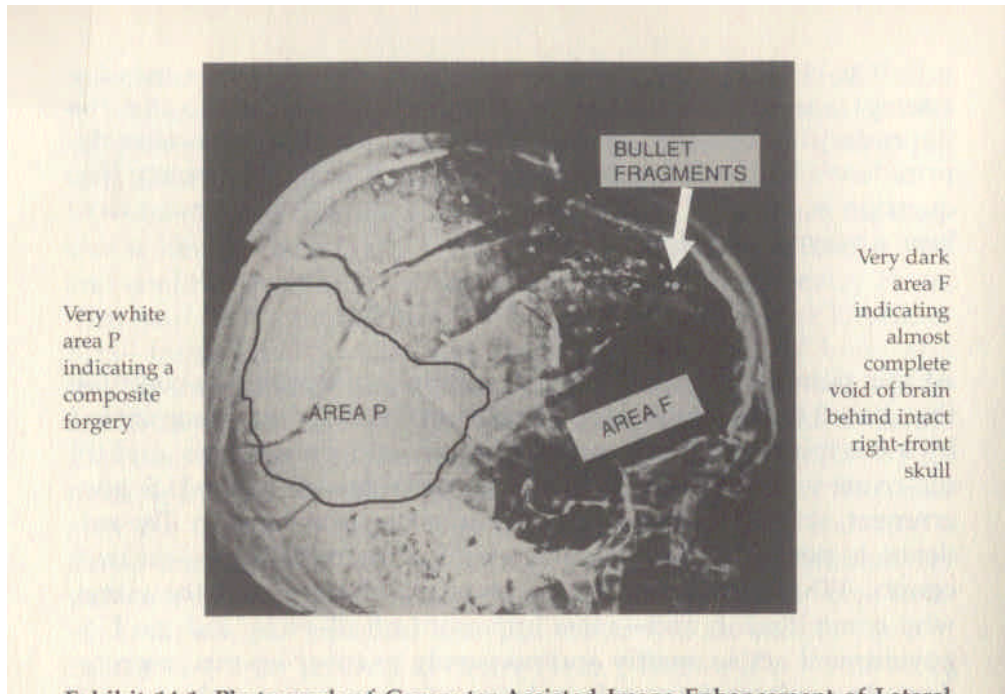


Figure 1. JFK'S RIGHT LATERAL SKULL X-RAY WITH WHITE PATCH CIRCLED. *The circled white patch was almost certainly added in the dark room. Its purpose was to emphasize the resulting dark area in front, which suggested that a bullet had exited from the front.*

The best evidence for an anomaly comes from optical density (OD) measurements at the National Archives (NARA). According to these data, JFK's skull is nearly solid bone—from left to right—at this site, as if JFK were a bonehead. As I have previously shown and discussed, this patch could easily have been added in the darkroom. It misleads viewers into thinking that tissue was missing from the front of the skull, thus suggesting that a bullet had exited from the front, not the rear. Even the chief pathologist, James J Humes, in his sworn deposition before the ARRB, repeatedly expressed his bewilderment at the lateral X-rays. He was especially puzzled by the dark area, which he did not recall at all, perhaps because of the subconscious confusion created by the white patch.

**The Faked 6.5 mm Bullet Fragment.** This infamous 6.5 mm white object, lying within the right orbit, first emerged in the Clark Panel report, several years after *The Warren Report* (Figure 2).

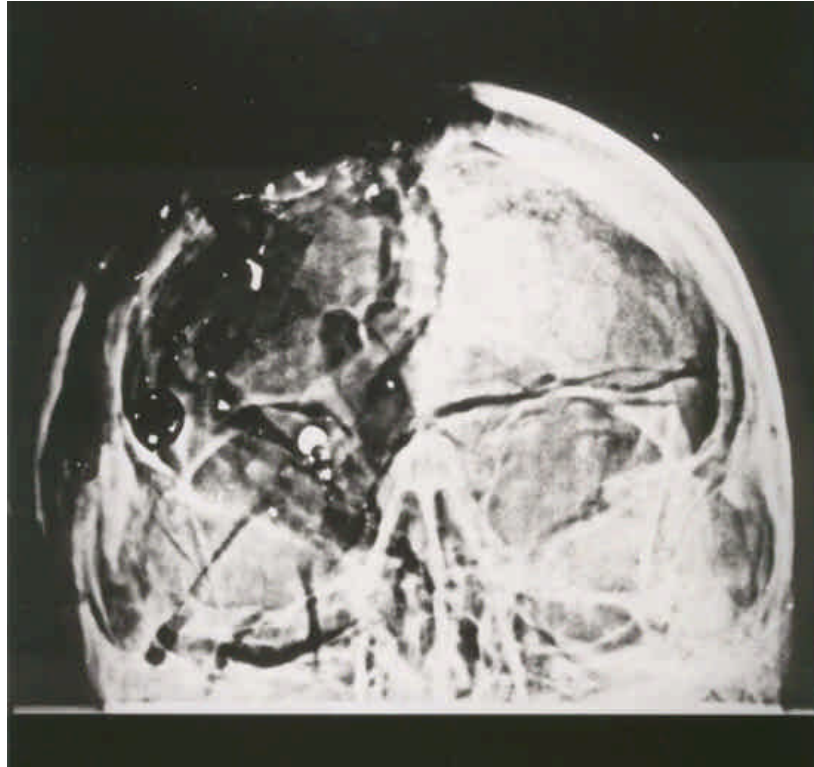


Figure 2. AP (ANTERIOR/POSTERIOR SKULL X-RAY )

*The infamous 6.5 mm, nearly circular, faked object lies within the right orbit. This must have been added in the darkroom. Though no one at the autopsy saw it, it played a central role for the HSCA. Its (authentic) image is visible on the lateral X-ray, at the back of the skull.*

*No one saw it at the autopsy.* Larry Sturdivan, the HSCA ballistics expert, agrees that this object cannot be a piece of metal. Powerful evidence of its origin as a double exposure in the darkroom derives from the OD measurements made at NARA. I made literally hundreds of point-like measurements at tiny intervals across this small object. To compare these data, I obtained an authentic human skull. Then I sawed off a cross section from a 6.5 mm Mannlicher-Carcano bullet, which I taped to the human skull. This is the skull X-ray that resulted (Figure 3).

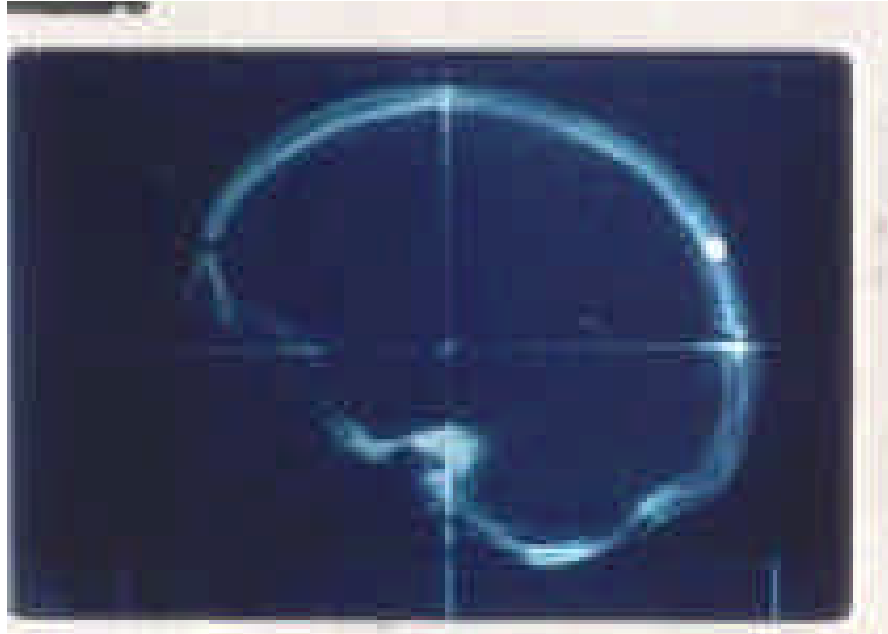


Figure 3. AUTHENTIC HUMAN SKULL WITH AUTHENTIC 6.5 MM METAL FRAGMENT *I obtained this image by using a real human skull and a section of a real 6.5 mm Mannlicher-Carcano bullet.*

I then performed similar OD measurements on this X-ray. The remarkable differences between these data sets (Figure 4).

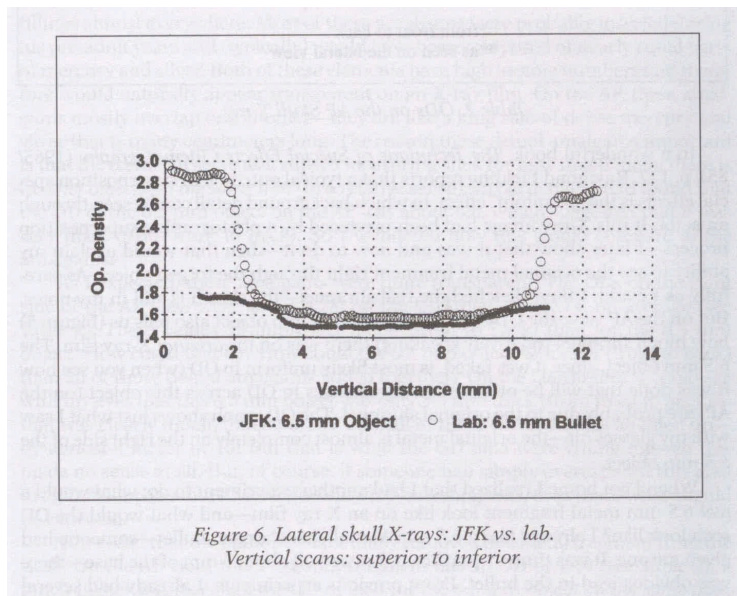


Figure 4. DATA GRAPHS FOR JFK AND SIMULATED SKULL X-RAYS  
*These two graphs are totally inconsistent with one another. The actual piece of metal on JFK's posterior skull was tiny, not at all large. A large piece would be expected from the 6.5 mm object seen on the AP skull X-ray.*

They clearly show that the 6.5 mm object cannot be an authentic piece of metal. This conclusion is actually supported by eight different arguments. In the interests of time, only a simple one will be noted today: the measured transparency of this fake 6.5 mm artifact on the frontal X-ray is greater than that of all of the metal work in JFK's teeth, shown here (Figure 5)

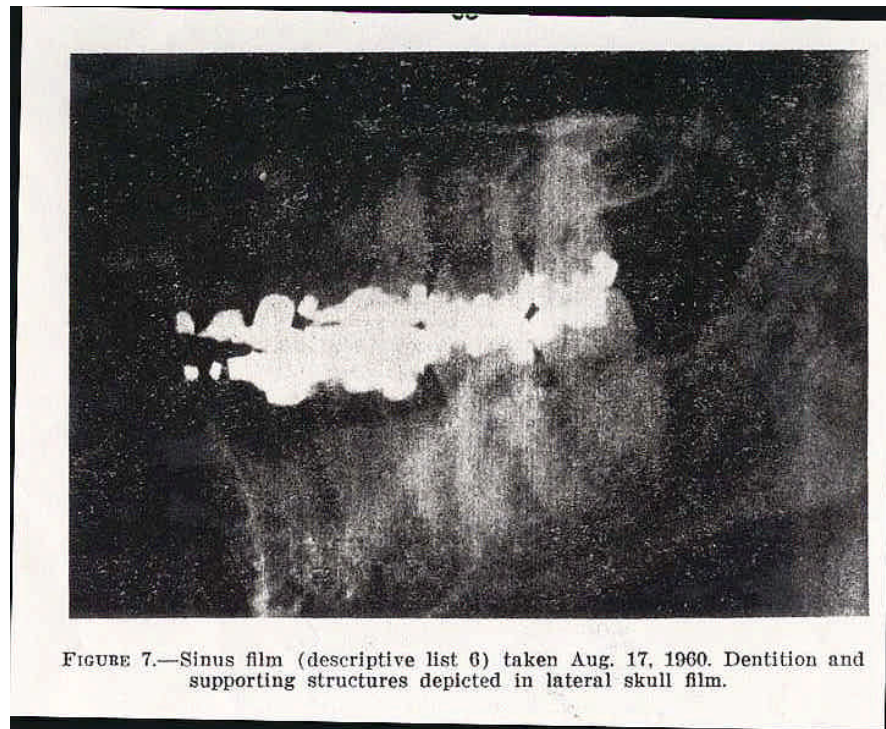


Figure 5. JFK'S DENTAL X-RAYS *These pre-mortem films were retrieved by the HSCA to authenticate the autopsy X-rays. I agree that they look the same as the teeth in the autopsy X-rays.*

These OD data of the 6.5 mm object, assuming they are authentic, describe a piece of metal that is longer (from front to back) than all of the metal (from front to back) in JFK's teeth. That's obviously nonsense. We can see for ourselves on the lateral X-ray that the object in question is tiny (Figure 6).



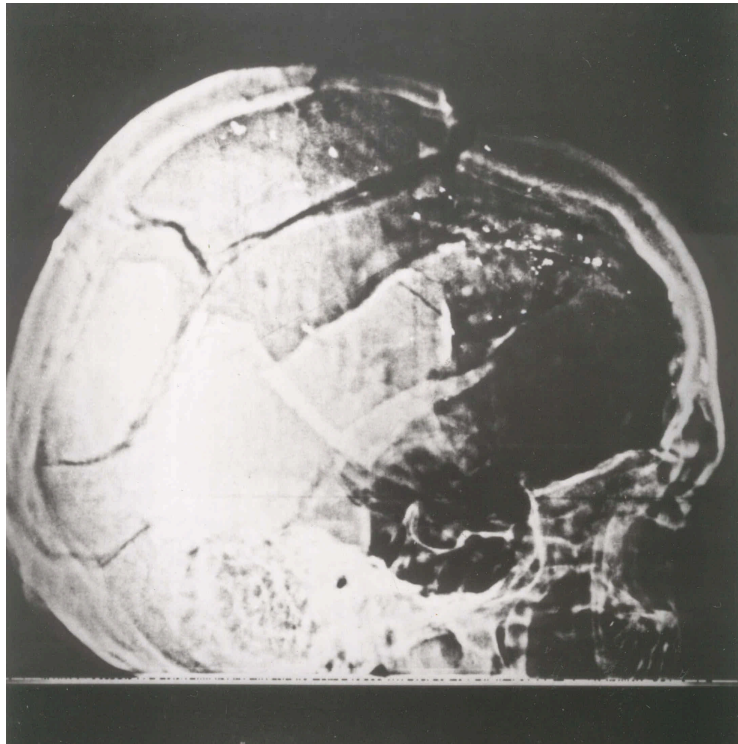


Figure 6. JFK'S RIGHT LATERAL SKULL X-RAY *Notice the very dark area at the front; this implies no brain tissue on either side. This conclusion directly contradicts the brain photographs (see sketch in Figure 8).*

This metal fragment on the lateral is probably authentic. Nonetheless, this fragment, especially as seen on the AP X-ray, was a central pillar for the HSCA, which concluded that it marked a rear bullet entry. Astonishingly enough, none of the three pathologists agreed with this. If this pillar is taken away from the HSCA, as it should be, their case is mortally wounded. The other pillar for their case was the "Red Spot" on the photo of the back of the head. That pillar has also since been pulled out, as we shall soon see. That X-rays could be copied convincingly onto ordinary X-ray film, using specific recipes actually printed in textbooks, was standard practice in the early 1960s. Here is an illustration from a 1961 radiology textbook (Figure 7).

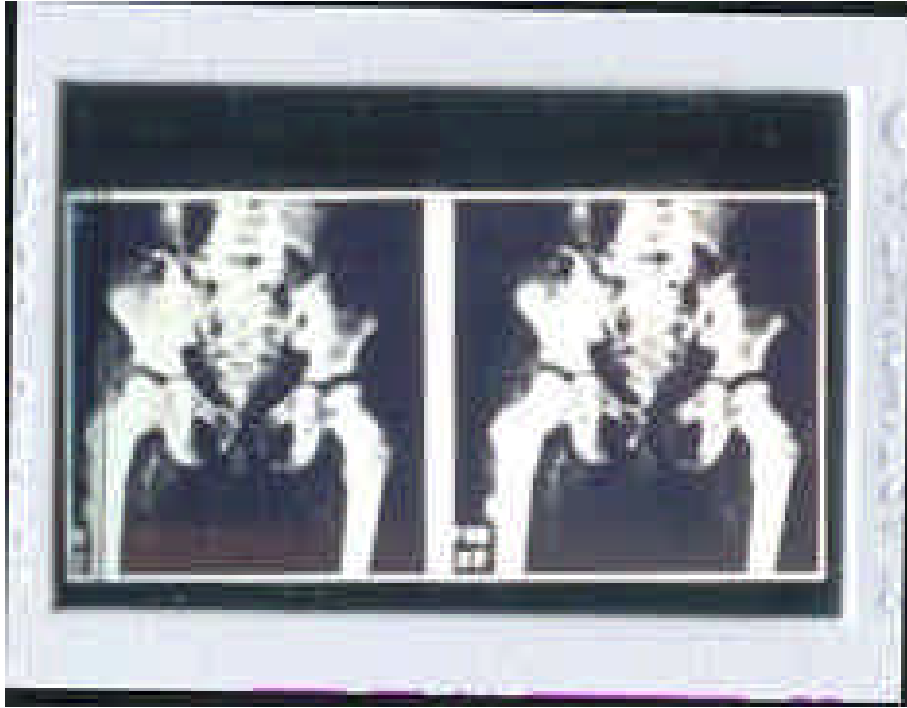


Figure 7. ORIGINAL AND DUPLICATE X-RAYS SIDE BY SIDE

*This is taken from a 1961 radiology textbook, which implies that the two images could not be distinguished from one another.*

If X-rays can be copied, then it is almost trivial to alter them in simple ways, such as adding a 6.5 mm object. I have previously published multiple fake X-rays showing a scissors, a pteranodon, and bullet fragments added to a skull X-ray. That was all very easy to do. I conclude therefore that this 6.5 mm artifact should play no role in this case. It certainly played no role in the deliberations of JFK's autopsy pathologists.

**The Dark Frontal Area on the Lateral X-rays.** Surrounding the skull is a dark halo, which represents air (Figure 6). A dark frontal area, inside the skull, looks nearly the same, suggesting virtually no tissue in this area. In direct conflict with this, the official brain photographs show little brain is missing in front (Figure 8).



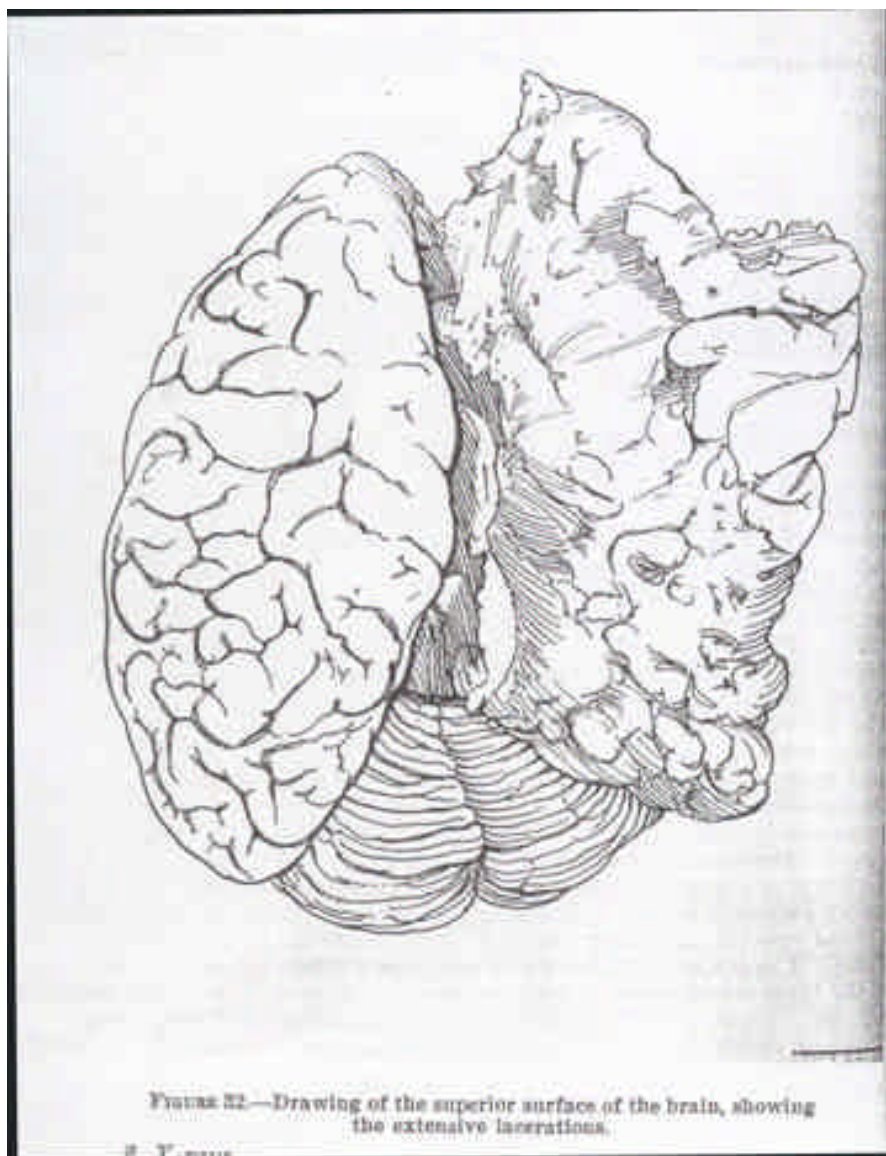


Figure 8. HSCA SKETCH OF BRAIN PHOTO

*Ida Dox prepared this sketch. It is the only image in the public record.*

Therefore, on the lateral X-rays, this area should look fairly white (or transparent). But, as you can see, the X-rays are not at all white here; on the contrary, they are extremely dark! In fact the OD measurements suggest virtually no brain at all in front—on either left or right! By itself, this paradox is extremely powerful. It makes a remarkable case for tampering: either the X-rays are wrong or the photos are wrong. Both cannot be right.

**Missing Left Brain.** Most likely the X-rays are telling the truth about the missing frontal brain. If so, a good deal of left brain was missing as well. This directly contradicts the

brain photos. In fact, one of the nurses at Parkland, who helped to clean JFK, actually reported missing left brain.

**Missing Frontal Bone.** Witnesses agree that JFK's face looked nearly normal. The X-rays show that the large open area in the skull (i.e., missing bone) extended all the way to the hairline in front. Not only could I see this with my naked eyes, but I also confirmed it with OD measurements. Here is my sketch, just as previously published (Figure 9).

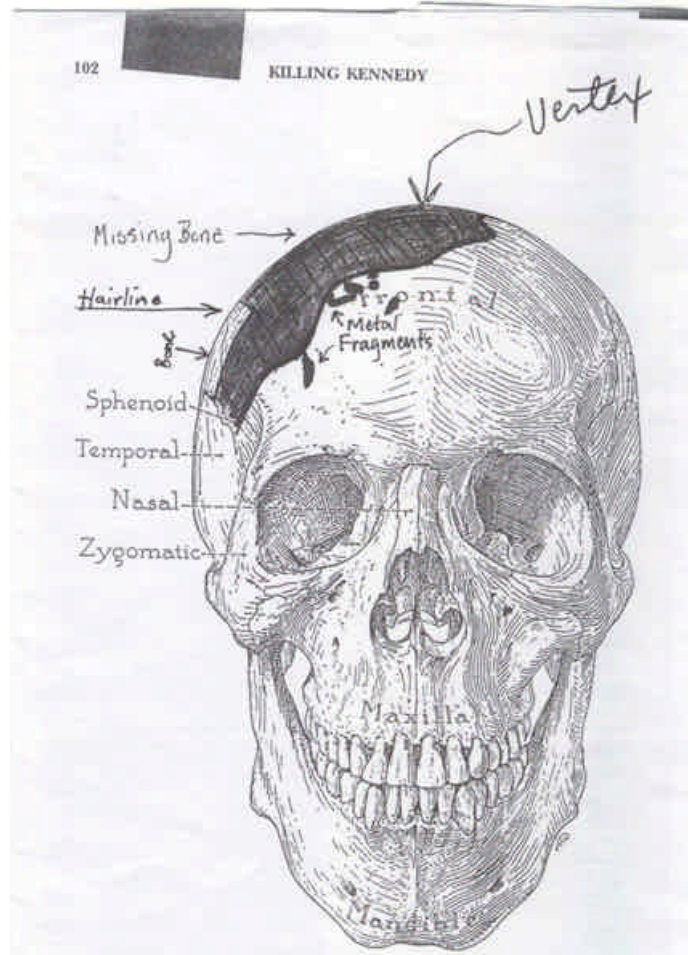


Figure 9. FRONTAL VIEW—MANTIK'S SKETCH OF MISSING BONE

*This sketch previously appeared in one of Livingstone's books. It is based on naked eye viewing of the X-rays and confirmed by OD measurements.*

Notice the slight notch in the bone just above the right eye, in the hairline. This notch is probably where the frontal bullet entered; indeed the notch might well have been produced by the entering bullet. Even Boswell, in 1996 (33 years later), recalled this

change in bone contour in his drawing for the ARRB. Note that he also drew the bone defect as extending almost exactly as far forward as I have shown, based on the X-rays (Figure 10).

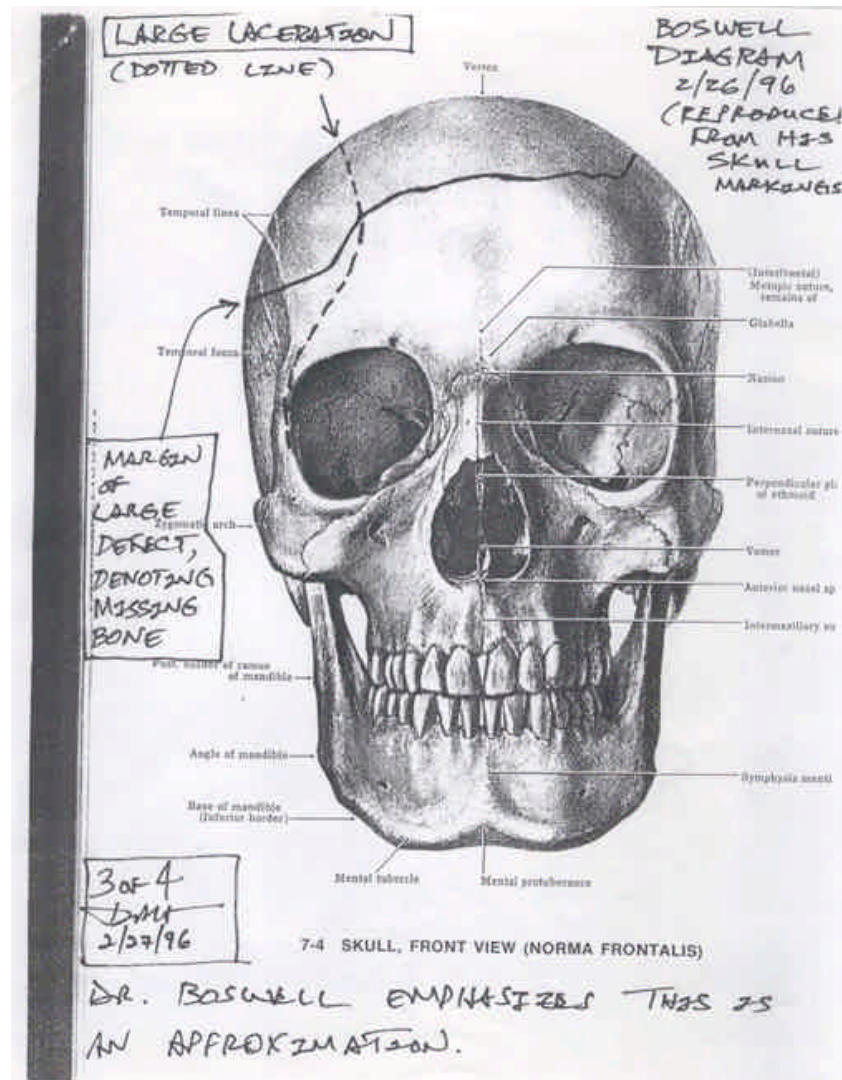


Figure 10. BOSWELL'S FRONTAL SKETCH

*This is based on Doug Horne's 2D sketch, taken directly from the skull on which Boswell made his original sketch for the Assassination Records Review Board.*

Such a forehead entry site is also consistent with the recollections of the autopsy technician (Tom Robinson), with the photographer Joe O'Donnell, with Dr. Charles Crenshaw at Parkland (when interviewed on TV by Geraldo Rivera) and others (Figures 11-13).



Figure 11. MALCOLM KILDUFF

*Acting press secretary Kilduff points to the fatal wound during the Parkland press conference, November 22, 1963.*

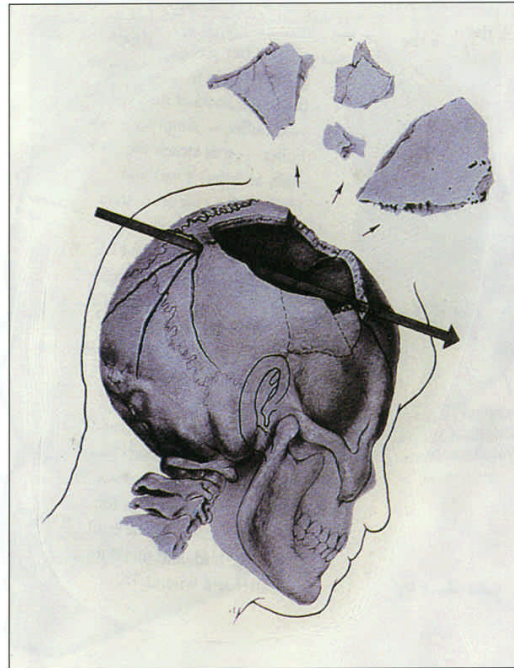


Warren Commission Exhibit 388, National Archives.

Figure 12. RYDBERG DIAGRAM

*Quite unexpectedly on a Friday afternoon, Rydberg was asked to draw this sketch—solely based on verbal descriptions—the only time in his entire career that words alone were used for a sketch.*





House Select Committee on Assassinations, JFK Exhibit F-66, National Archives.

Figure 13. HSCA SKETCH OF SKULL DEFECT

*The presence of bone anterior to the coronal suture directly contradicts the X-rays. Even the HSCA anthropology expert, Lawrence Angel, knew better.*

In these figures, Malcolm Kilduff, during the Parkland press conference, points to the fatal wound. The drawing prepared by Rydberg for the Warren Commission, under the direct supervision of the pathologists, also shows the bone defect extending well into the frontal bone. The HSCA sketch, by contrast, is easily shown to be wrong, though time does not permit that demonstration today. The HSCA sketch shows frontal bone present, where actually there was none. This was a flagrant blunder.

**The Shirt and Coat.** When the shirt is buttoned, the two slits just below the collar overlap (Figure 14).



Figure 14. JFK'S SHIRT

*I buttoned the shirt and saw that the two vertical slits overlapped very well. This is consistent with a scalpel removal of the shirt, but not with a bullet hole. No metal could be found at this site either, whereas it was identified at the hole in the back of the shirt.*

No fabric is missing—meaning that a scalpel could have produced these slits. That's exactly what the nurses, who cut off the clothing, have said. The appearance of these slits is not at all consistent with the passage of a bullet, to say nothing of a magic bullet. Furthermore, no tests ever showed the presence of metal at this site, as they did for the hole at the back of the shirt.

When a live model at NARA modeled JFK's coat for me, the hole in the coat lay about ten centimeters (four inches) inferior to the superior border of the shoulder blade (scapula). This is grossly consistent with the autopsy photograph of the back wound, which lies much higher. When Steven Tilley, JFK Liaison at NARA, simulated (at my request) the natural alignment of the shirt and coat on a table top, I could see that the hole in the shirt lay 1.5 cm inferior to the hole in the coat. In order to explain the low-lying



hole in the coat, partisans of the single bullet theory have necessarily had to argue that the top of the coat was bunched up (by more than four inches) according to the measurement noted just above. On the other hand, they have been oddly silent about the hole in the shirt. Since this hole appears to lie even lower, they must argue that the shirt was also bunched up, perhaps even more than the coat—despite the fact that there is no evidence at all that the shirt was bunched up—and despite the fact that JFK was wearing a corset that reached at least as high as his low lumbar area.

**CE-843.** These two fragments were supposedly removed from JFK's brain (Figure 15).

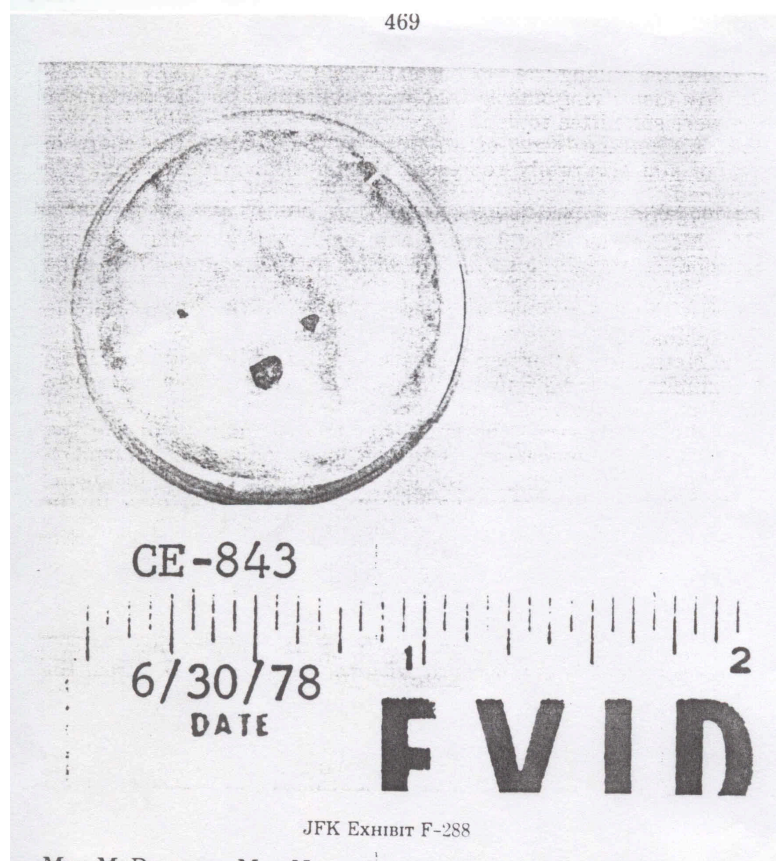


Figure 15. PHOTO OF CE-843

*This is one of the most shocking contradictions in the entire case. The shape of the larger piece of metal is nothing like the supposedly identical piece seen on the X-rays. No measurements taken on this piece can explain its bizarre transformation in shape. Most likely, it is not the piece taken from the skull. Its origin is unknown.*

John Hunt has much better quality images, obtained from NARA. Incidentally, I saw only two, not three, fragments at NARA. The largest, however, bears no resemblance to the corresponding image on the X-rays. The larger piece shown here is pancake shaped and was 107 mg. On the other hand, the X-rays show a club shaped object—on both X-ray views (see Figures 2 and 6 above). The studies done by the FBI on this object—spectrographic analysis and neutron activation analysis—required only a tiny amount at most, about 1 mg, according to one of the FBI experts. At this meeting, John Hunt will report further on these issues. No one has ever offered an explanation for this flagrant discrepancy in shape of the largest piece. Sampling of the material is not an explanation. The possibility of substitution of fragments, an issue actually raised by the neutron activation expert (Dr. Vincent Guinn), remains wide open.

**Many Tiny Fragments!** There are remarkably many, tiny metal fragments widely scattered on the skull X-rays (see Figure 2). Some are on the left side, including an obvious one near the top of the skull and even some on the inferior skull—at least four near the chin, on both left and right sides, on the frontal X-ray. These are however, not easy to see in the attached images and are best seen on the X-rays at NARA. This remarkable, and heretofore ignored, observation is hardly compatible with the passage of a metal-jacketed bullet near the top of the skull, an event that was suggested by the HSCA. On the other hand, shrapnel from a bullet that was ignored by prior investigations might have caused this these many widely scattered fragments. Many eyewitnesses report a bullet, or bullets, striking the street. Some even saw sparks fly up from the pavement.

**A Mercury Bullet?** All three skull X-rays show a spatially consistent, fuzzy, gray cloud (about 4 x 1 cm) near the center of the fragment trail that extends across the top of the skull (Figure 16).

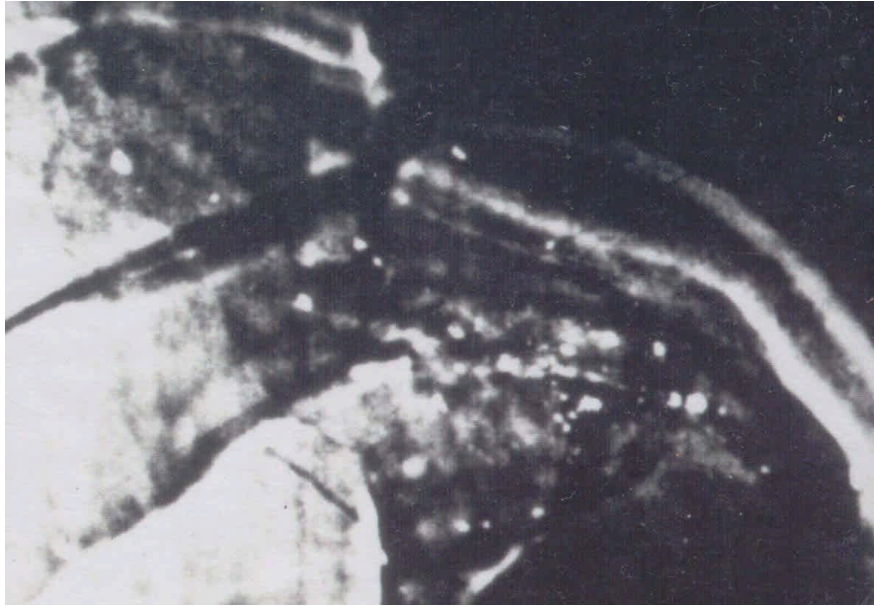


Figure 16. CLOSE-UP OF LATERAL X-RAY

*This fuzzy gray cloud can best be seen on the X-rays at NARA. It does not look like metallic lead (or copper) debris, but might have been caused by a mercury bullet.*

This fuzzy cloud might be more consistent with mercury (extruded from a bullet) rather than lead. An attempt to kill DeGaulle with a mercury bullet occurs in *The Day of the Jackal* by Frederick Forsyth. Amazingly enough, this plot occurs in the summer of 1963 (Figures 17-18).

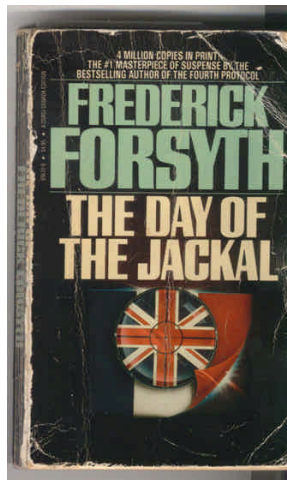


Figure 17. FORSYTH BOOK JACKET

*The Day of the Jackal describes a plot to kill General DeGaulle in the summer of 1963. The assassin is given a few mercury bullets for the job.*

pressed into his seat by a violent acceleration. As soon as the bullet struck flesh, gristle, or bone, it would experience a sudden deceleration.

The effect on the mercury would be to hurl the drop-let forwards toward the plugged front of the bullet. Here its onward rush would rip away the tip of the slug, splaying the lead outwards like the fingers of an open hand or the petals of a blossoming flower. In this shape the leaded projectile would tear through nerve and tissue, ripping, cutting, slicing, leaving fragments of itself over an area the size of a teacup. Hitting the head, such a bullet would not emerge, but would demolish everything inside the cranium, forcing the bone-shell to fragment.

The assassin put the bullet carefully back on the tissue-paper. Beside him the mild little man who had designed it was looking up at him quizzically.

"They look all right to me. You are evidently a crafts-

Figure 18. FORSYTH QUOTES

*Forsyth's descriptions of the effect of mercury bullets seem to fit the JFK skull wounds remarkably well.*



**Harper Fragment.** John Hunt will speak at length about this fragment. Careful study of all three skull X-rays permitted my reconstruction of the autopsy skull, as shown here (Figure 19).

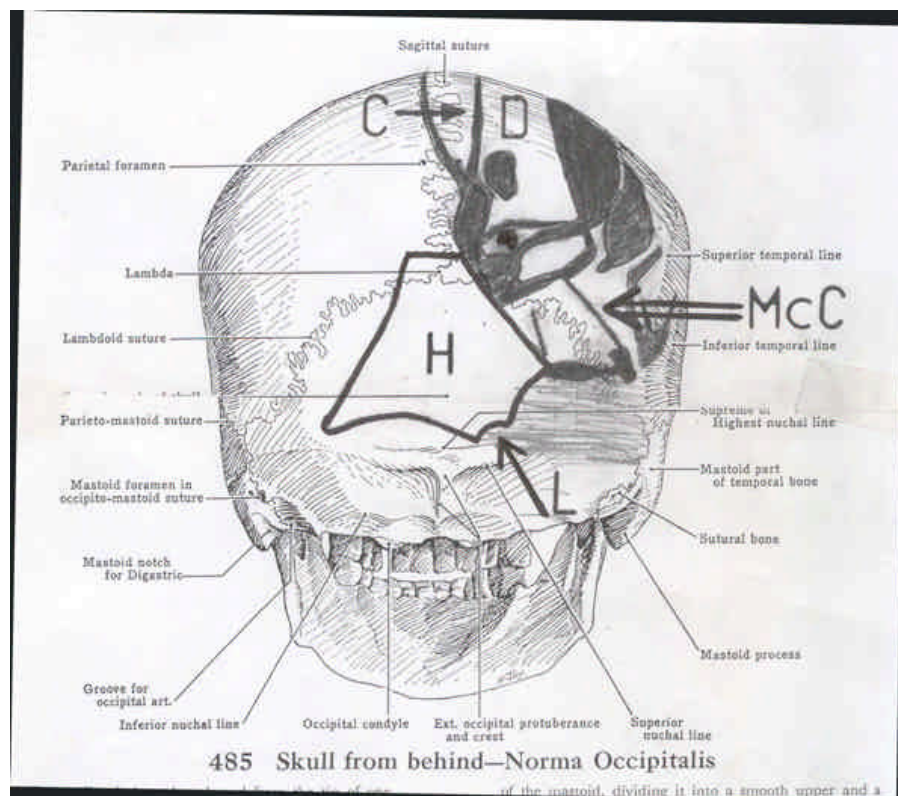


Figure 19. MANTIK'S RECONSTRUCTION OF THE JFK SKULL

*In a step by step process, I used lead wire to outline on a real human skull where the bone fragments lay on JFK's skull X-rays. I then took a sequence of X-rays, first using fluoroscopy to obtain the correct orientation, to corroborate their exact locations. Even the mystery photo F8 (taken from the rear) was useful in this process and found to be remarkably consistent with the X-rays. After this I could finally identify a hole near the midline in the occipital area that matched the size and shape of the Harper bone fragment uncannily well. Even more remarkable, though, the lead smudge ended up precisely where the pathologists said the bullet had entered the rear of the skull.*

Most likely the Harper fragment lay at the rear, as is shown here. The only other possible location was offered by Dr. Lawrence Angel, the anthropology expert for the HSCA, who placed it into the parietal area, close to the site shown here (Figure 20).



Figure 20. MANTIK'S VERTEX VIEW OF THE RECONSTRUCTED JFK SKULL

*Here is an overhead view of my reconstruction. The Harper fragment probably could have fit into the parietal site selected by Angel but the lead smudge—seen on the outside—was ignored by Angel and is not supported by any other data as a parietal entry site.*

However, he did not know that occipital bone was missing so this site at the top of the head was his only option. The large bone fragment that arrived late at the autopsy arose immediately anterior to the coronal suture, which is faintly seen here. Both Angel and I agree on this. The HSCA version is hopelessly wrong. My reconstruction suggests that this parietal area of the skull was indeed missing, so Angel made a reasonable guess. The chief argument against his placement though is that the lead smudge on the Harper fragment (seen on the photograph and actually described by the Dallas pathologists who first saw it) lies on the *outside*, not on the inside (Figure 21).



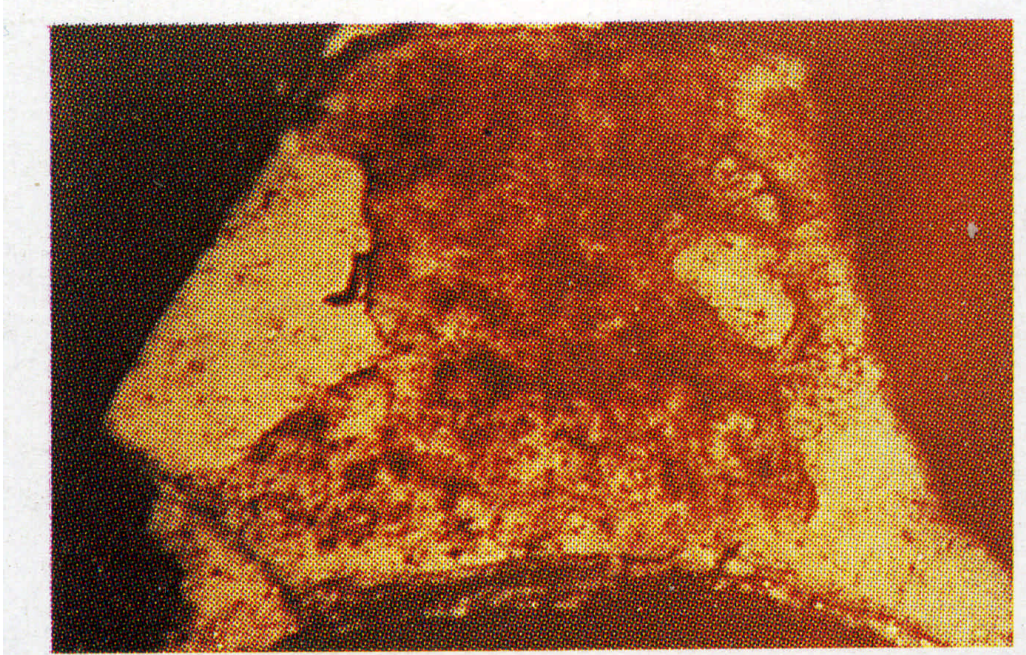


Figure 21. HARPER FRAGMENT PHOTO

*These photos were taken in Dallas. The lead smudge can be seen at one edge.*

This external location suggests an entry, not an exit at this site. The multiple, sequential steps that led to my placement of the Harper fragment yielded—*quite coincidentally*—a location for the lead smudge that exactly matched the entry site described by the autopsy pathologists! To this day, that remains one of the most extraordinary events of my journey. *That remarkable match was not an independent assumption.* On the other hand, Angel’s site implies a parietal *entry* (because the lead smudge is on the outside), an option that virtually no one would support.

So why does any of this matter? If the Harper fragment derives from the rear, this suggests a large exit hole at the rear—consistent with a shot from the front. Most eyewitnesses apparently did not see this defect, however, as it was probably covered by scalp. Instead, most described an immediately adjacent hole, just to the right of the Harper defect. This latter one was sketched for McClelland (and gained his approval). Ironically, as can be seen on the X-rays, the bone was not missing here. Rather, a bone flap on a hinge (it could swing in or out)—located in the occipital area, as I have previously discussed—gave the impression of a hole if the flap was out. In fact, at Parkland it had swung out; on the X-rays it is closed, which has given some the impression that bone was not missing at the rear. (Robert McClelland stated: “...some

of the occipital bone being fractured in its lateral half, and this sprang open the bones....”)

To further emphasize the accuracy of these conclusions, John Hunt has advised me, as he will soon demonstrate in his own talk, that he has discovered X-ray images of the Harper fragment at NARA. A sequence of different X-ray exposures clearly and consistently shows lead (or at least metal) at a specific site in these images.

Astonishingly, though, the metal appears at exactly the same site as the dark smudge (that looked like lead) on photographs of the Harper fragment! Even the Dallas pathologists, who first examined it, described a probable site of lead. In particular, Dr. Noteboom, who spoke on a talk show with me in 1993, also confirmed his lasting impression of a small amount of lead on the Harper fragment. This leads to an amazing conclusion: if John Hunt’s discoveries and my reconstruction are accepted, this is then the first time that objective evidence has emerged to support the pathologists’ low occipital entry site. This means, of course, that the much higher site selected by the HSCA, is grossly wrong.

**Starched Scalp Hair.** Dr. Doug DeSalles located a large format stereo viewer for me. With this device, I could view any of the seven autopsy poses in 3D. The only image that looked bizarre and flat, as though it were frozen in space in a 2D image, but still surrounded by a normal 3D image (Figure 22).



THE MEDICAL

Figure 22. COLOR PHOTO OF POSTERIOR HAIR

*In the stereo viewer the hair appears starched and two dimensional, as if glued into position. This is what would be expected if the same image had been inserted into two (slightly) different photos. The “red spot” is visible here, much higher than the entry wound described by the pathologists. In fact, they refused to identify this “red spot” as the entry wound, but the HSCA ignored them.*

If the same image of hair had been inserted—e.g., via a soft matte process—into multiple photos, that’s how it would look. That’s exactly what you see when you view two exactly identical photos through the stereo viewer—you see a 2D image. None of the other autopsy poses (there are only seven in all) displayed such a peculiar image. Even more to



the point, of course, this 2D image precisely covers the large hole that literally dozens of eyewitnesses recall, both at Parkland and at Bethesda.

**The Curious “Red Spot.”** This was the central focus of the HSCA investigation—the second pillar of the HSCA, as I have called it. Note the red spot near the cowlick area in Figure 22. Dr. Michael Baden has often emphasized its central role in the HSCA deliberations. Even though all three autopsy pathologists always vigorously denied that this was the entry wound, the HSCA nonetheless ignored them and chose this as the entry wound. No one at Parkland or at Bethesda ever saw this. This observation is so critical that I should repeat it: *No one at Parkland saw this! No one at Bethesda ever saw this!* The HSCA literally based its case on a piece of paper—photographic paper. Furthermore, the b&w photograph of this spot does not look like the color image. Even Humes, the chief autopsy pathologist, insisted on an obvious difference between the two photos. To make matters even worse, when Ida Dox sketched this wound for the HSCA, she *accentuated* it (Figure 23).



Figure 23. IDA DOX SKETCH OF HAIR AND RED SPOT

*The sketch significantly enhances the “red spot,” making it look much more like an entry wound. (John Hunt displayed a note from Michael Baden to Ida Dox, telling her that she could do a better sketch, i.e., make it look more like a real wound.)*

(John Hunt has regaled me with anecdotes about his curious encounters with Ida Dox.)  
This “Red Spot” is a simple fake. It never existed on the body. It should not play a role in this case.

**The Inconsistent Dark Spot on the Back Photo.** Here is the back wound, as suggested by the pathologists’ sheet and also by the hole in the coat (Figures 24-25).

Autopsy sheet for J. Edgar Hoover, dated 11-22-63. The form includes fields for NAME, DATE/TIME RECEIVED, RACE, SEX, AGE, and PHYSICAL DESCRIPTION. The PHYSICAL DESCRIPTION section contains handwritten notes: "Weight 180 lb, Height 5'10", "Chest 40", "Waist 34", "Hips 36", "Forearm 14", "Upper arm 12", "Thigh 18", "Calf 14", "Heel 10", "Instep 10", "Ball 10", "Arch 10", "Instep 10", "Ball 10", "Arch 10". Below the form are two diagrams of the back, one labeled "Front" and one labeled "Back". The "Back" diagram shows a dark spot on the upper back, with handwritten notes: "Suggested drawing 15 lb mass", "7X4 cm", "1 cm from rt", "1 cm from lt", "1 cm from top", "1 cm from bottom". The "Front" diagram shows a dark spot on the lower back, with handwritten notes: "1 cm from top", "1 cm from bottom".

Warren Commission Exhibit 397, National Archives.

Figure 24. AUTOPSY SHEET

*This was prepared at the autopsy and includes Boswell’s placement of the back wound (not “back of the neck,” as Gerald Ford would later describe it).*

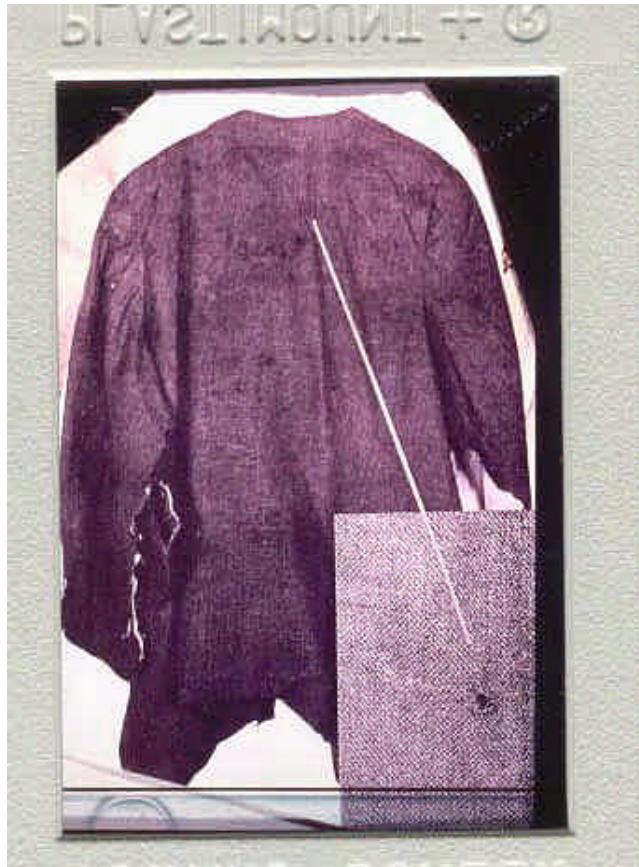


Figure 25. JFK'S COAT

*When a male model wore this coat for me at NARA, I measured the hole as 4 inches below the superior border of the should blade (scapula), meaning that WC supporters had to claim that the coat was bunched up by 4 inches—and still produce only one hole—a well nigh impossible feat.*

The original photos of the body are large format transparencies (4 x 5 inches), so I focused on these. They usually come in pairs that look very similar but are in fact slightly different. In the photographs of the back, on the left side is a small, well-circumscribed, dark spot (perhaps a bloodstain) just above and to the left of the fourth knuckle (Figure 26).





Figure 26. PHOTO OF BACK

*Note the small dark area (possibly a blood stain) near the fourth knuckle of the left hand. This object is absent from one of the (presumably) authentic transparencies I viewed at NARA.*

To my amazement, when I examined this site closely in the pair of color transparencies, *the dark area was absent from one of them!* What I saw instead, precisely at this same site, was a light-colored spot, with a thin, dark, horizontal line through the center! (Figure 27)

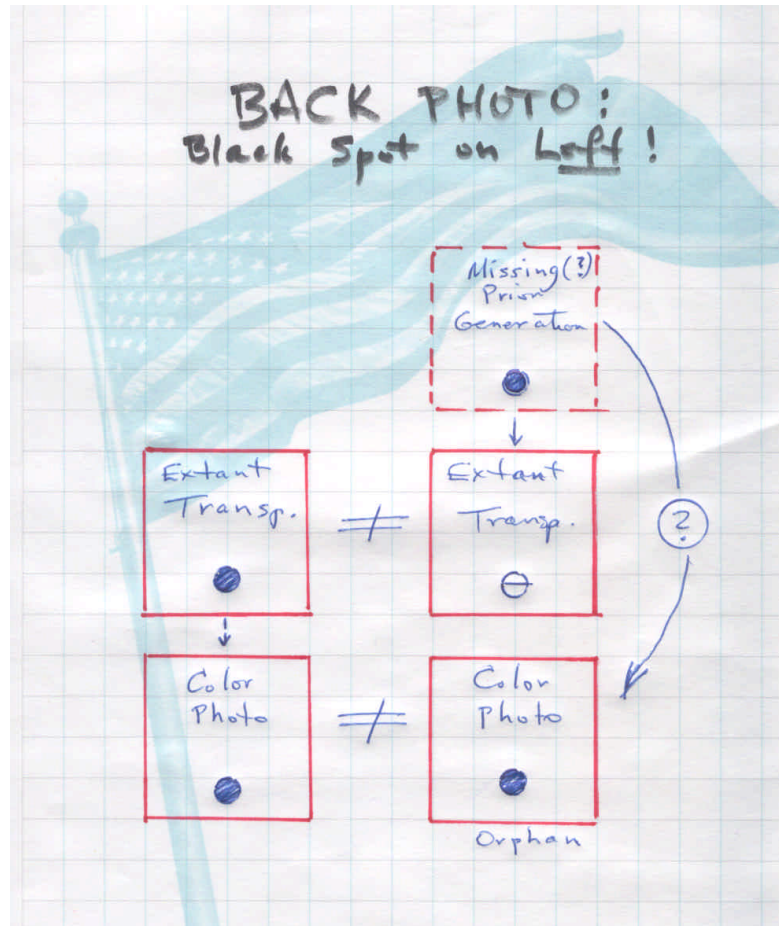


Figure 27. GENEALOGY OF BACK PHOTOS.

*This is a pictorial display of the lineage of the back photos. One transparency cannot be authentic and one color print is an orphan. Something is clearly amiss with the official collection.*

Since the only color films exposed at the autopsy (of the body) were transparencies, the color prints must have been prepared later—from the transparencies. Since both color prints do show this identical dark spot (as do the b&w images), the next question was obvious: Do both color prints derive from the sole color transparency with the dark area?

To answer this question, I looked at the two color prints with the stereo viewer. I saw a typical 3D image. That can only happen if the two color prints are at least slightly different from one another—they cannot be identical. *Therefore, there are two, slightly different color prints. Each must derive from a different color transparency—and each of these two transparencies must display the dark spot.* But since only one color

transparency shows such a dark area, one of these color prints is an orphan—it has no parent! Its parent is missing!

Only two possibilities exist: either (1) the body was altered at the autopsy at this specific site in the short time interval between these two exposures (obvious nonsense) or (2) a now-missing color transparency (that contained the dark spot) was first used to produce the second color print. After all, the image had to come from somewhere. Finally, for reasons that remain unknown, the transparency was then photographically altered so as to appear as it now does—showing a light colored spot with a horizontal line passing through its center. The original has vanished.

So why does any of this matter? The dark area does not look like a wound, so it's probably not intrinsically important to the case. I'm not even sure why it was changed. What is important though is that it was changed—it cannot be an original! Let me say that again: *this transparency cannot be an original!* Yet the official view, confirmed in a follow-up letter to me by Steve Tilley is that the autopsy photos—and the X-rays, too, for that matter—are all originals (Figure 28).

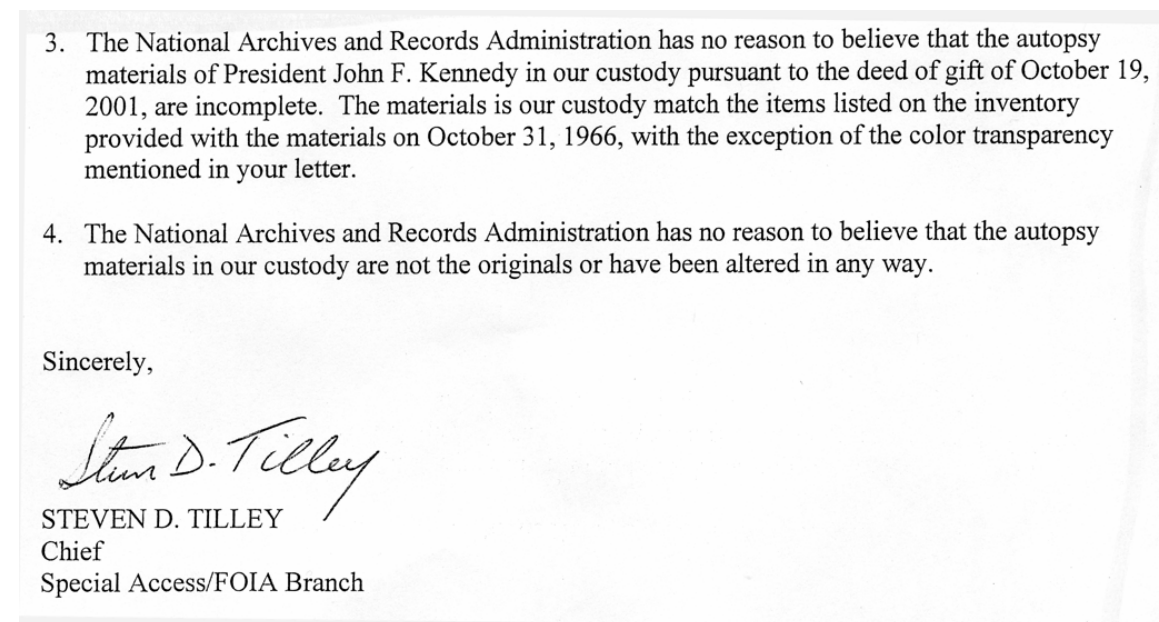


Figure 28. TILLEY'S LETTER OF AUTHENTICITY

*After my discoveries of the inauthentic photo and the copy of the left lateral X-ray (made while Tilley observed me), I sent him a short letter, merely inquiring whether NARA still regarded all of these items as authentic. This is his reply.*

But now we know better; at least one photo is a copy. Once that point is conceded, then what guarantee do we have that the other transparencies are originals? With this new, and rather startling, revelation it is relatively undemanding now to accept that the odd 2D hairpiece seen in the stereo viewing is a fake. In summary here are the crucial photographic conclusions:

- One transparency cannot be authentic.
- One color print is an orphan.

**The Strange Inscription on the Left Lateral X-ray.** This is the most important evidence to emerge from my nine visits. This image is not in the public record, so I am showing a patient X-ray. On the JFK left lateral skull X-ray, just in front of the spine is an apparently hand drawn inscription, not previously discussed by me—or by anyone else (Figure 29).

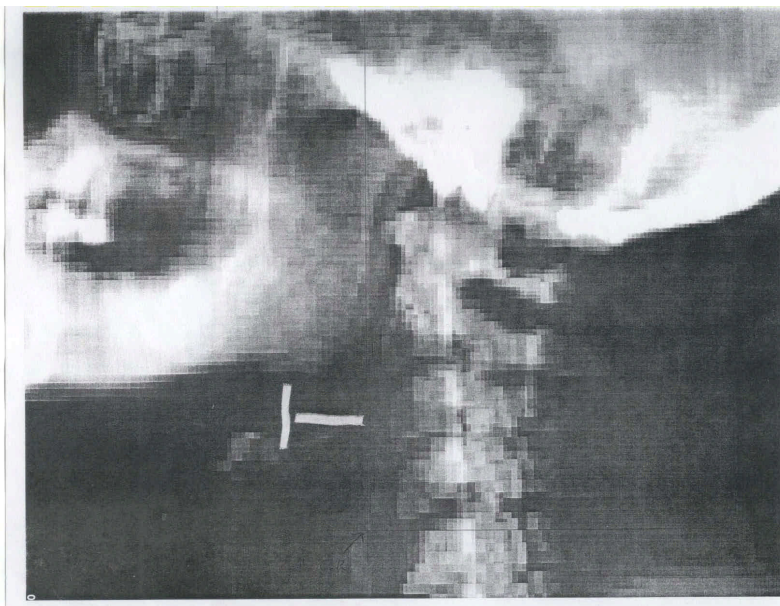


Figure 29. LATERAL PATIENT X-RAY

*Since the left lateral JFK X-ray is not in the public record, I show instead an anonymous patient X-ray here. The T-shaped inscription, lying on its side, lies just in front of the spine on the X-ray as seen at NARA. The appearance of this inscription—i.e., no missing emulsion—proves that this X-ray is a copy. The*

*original is nowhere to be found. In fact, all three extant skull X-rays are most likely copies, based on both quantitative and qualitative observations.*

It looks like a capital letter T, lying on its side. It is the only hand drawn symbol that I could find on any of the three extant skull X-rays. This inscription is quite transparent, as if emulsion had been removed from the film. Consistent with this, small black traces, suggesting residual islands of emulsion, are still visible.

For comparison, at one edge of this same film, the emulsion has indeed peeled up from one side; I could easily see tiny, isolated fragments of emulsion. Furthermore, where emulsion was missing, the shiny plastic film base was easy to see. As would be expected, light transmission is greater through such single emulsion sites. I could also see that emulsion was still present on the other side of the film. Now, why does any of this matter?

If emulsion were truly missing (like paint scraped off an oil painting) from one side of this inscription, then it should be trivial to see. Here then is the chief discovery of this ninth visit: *no emulsion is missing!* Even when I looked very closely—using reflected light at a wide range of angles—the emulsion appears entirely intact over this site. And this was true on both sides of the film. Both surfaces are as slick and smooth as a freshly iced hockey rink. Emulsion is neither missing nor disrupted in any way.

How can this be? There can be only one explanation—the left, lateral skull X-ray is a copy. The reason, of course, is that the emulsion of a duplicate film would be fully intact, as is the case here, but it would still faithfully record any areas of increased transmission (i.e., missing emulsion) from the original. A simpler—or more straightforward—proof of film copying is unimaginable. This film is a copy! I prepared, and brought with me, several small X-ray samples to illustrate this point. Anyone can see this grossly obvious difference between an original and a copy. It does not take an expert.

There are two other odd features of this X-ray: (1) there are no Kodak identification numbers anywhere on it and (2) this film has never appeared in any publication. It can only be seen at NARA.

### **Conclusions about the JFK X-rays**

To put all of this in context, here are the chief points of this talk:

- A white patch was added to the lateral X-rays, near the rear.
- A 6.5 mm bullet fragment was faked onto the frontal X-ray.
- On the lateral X-rays, the dark frontal area contains no brain—on either side.
- Frontal bone is missing all the way to the hairline.
- CE 843 (the large metal fragment) is totally inconsistent with the X-rays.
- A fuzzy white cloud in the metal fragment trail might be mercury.
- The Harper fragment derives from the rear of the skull, is mostly occipital,
- The starched hair and “red spot” are both faked.
- The dark spot on the left back proves that one transparency is not authentic.
- The left lateral X-ray is a copy; the original is missing (in fact, all originals of the skull are missing).



## PERSONAL REFLECTIONS

That's enough about the autopsy materials. I would like now to offer some personal reflections on this case. In 1959 the BBC filmed the great Swiss psychologist Carl Jung (Figure 30).

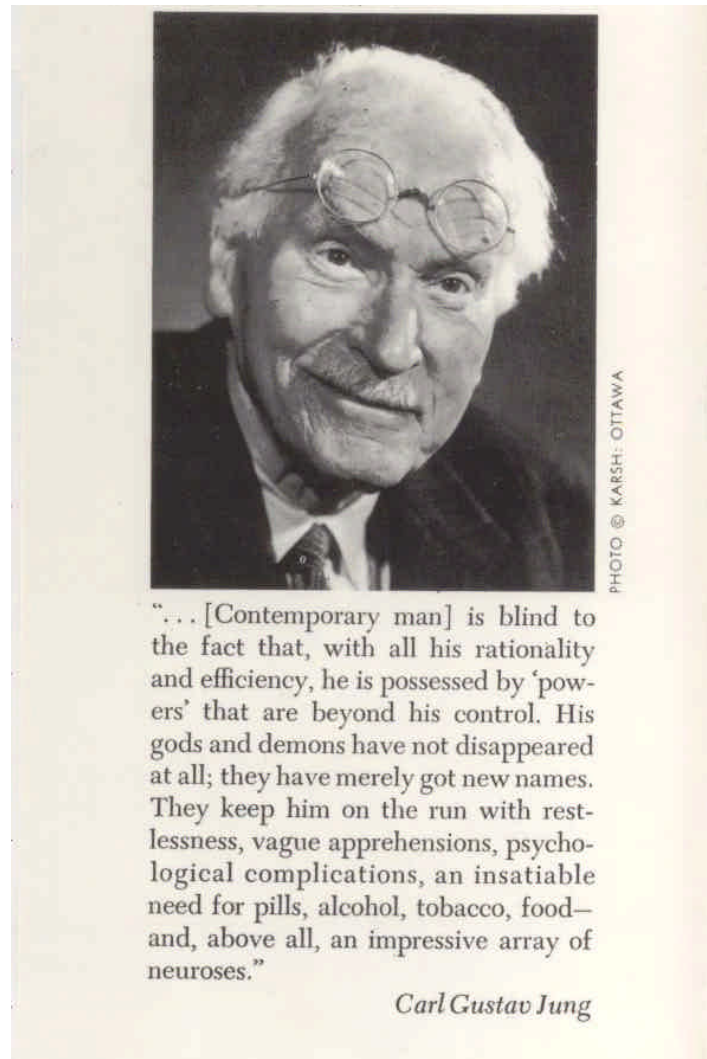


Figure 30. PHOTO OF CARL JUNG

*Carl Jung (1875-1961) is shown here in his study. His attached comments are worth reading.*

During the on-film interview, he was asked an amazing question: "Dr. Jung, do you believe in God?"

Jung's reply astonished me. He said: "No, I don't believe in God. I *know* there is a God."

Likewise now, when I am asked if I believe in a conspiracy to kill JFK, I say: “No, I don’t believe in a conspiracy. I *know* there was a conspiracy!” [*Editor’s note:* Except that Jung used the word “know” in the weak sense of a sincere belief he could not deny, while Mantik uses it as an empirical claim that has been established beyond reasonable doubt.]

**The Behavior of the Autopsy Doctors.** Harold Rydberg, who drew the WC diagrams—based merely on verbal descriptions—and who was a friend of Humes, employs the metaphor of a chess game: on November 22, 1963, Humes was checkmated. However, Humes was never happy “that he had to knuckle under,” according to Rydberg.

This snapshot of the pathologists is entirely consistent with my own picture of them. These were competent (at least in general pathology), honorable men, who earned respect throughout their lives, but on this one occasion they were thoroughly boxed into a corner—checkmated, as Rydberg says. Their only other option was to throw away all they had earned during a lifetime in the military. Few individuals would so rashly risk all they had achieved. The pathologists told the truth when they could, but when trapped they went along. Boswell raised the back wound from where he had placed it on his autopsy diagram. Humes radically lowered the trail of metallic debris on the lateral skull X-ray; after all, a correct placement at the top of the skull, coexisting with an entry wound low on the skull (which the pathologists saw and felt) would unambiguously have meant two shots to the head—and unmistakable conspiracy.

*That was not ignorance or incompetence.* Even my son, at age seven, would not have made that mistake. Two shots to the head was an intolerable conclusion—radically inconsistent with the developing official view. Therefore Humes had no choice but to displace the bullet trail downward by over 10 cm. When asked under oath by the ARRB about this incredible deception in his autopsy report (with the disagreeable X-rays staring him in the face), Humes had no explanation whatsoever. In fact, Doug Horne, who was present, advised me that Humes nearly walked out of the interview, so frustrated had he become by that point.

I am not without sympathy for these unfortunate doctors. But they hardly stand alone in infamy. The Parkland doctors, too, changed their statements about the throat wound—this without seeing any new evidence. After merely being told that the official autopsy reported an exit (not an entrance) in the throat they, too, went along. To

compound their complicity, however, they had the audacity to malign Dr. Charles Crenshaw to our *Journal of the American Medical Association* merely for telling the truth, based on observations that closely coincided with their own.

By January 1933, before Hitler rose to power, 6% of Germany's doctors had joined the Nazi party. By 1942, about half were members. F. A. Hayek (*The Road to Serfdom* 1944) adds others to this embarrassing roster: "The way in which ... with few exceptions, her [Germany's] scholars and scientists put themselves readily at the service of the new rulers is one of the most depressing and shameful spectacles...."

Perhaps the lesson is merely one that applies to all of us: we humans are at amazing risk for social pressure. This is no longer speculation.

**Stanley Milgram.** In 1963, the results of a startling psychological experiment offered proof of this conjecture (Figure 31).



Figure 31. PHOTO OF STANLEY MILGRAM

*Milgram's (1933-1984) work revolutionized social psychology, but is still little appreciated by the general public, perhaps because it is so contrary to what we would like to believe.*

A headline in *The New York Times* (October 26, 1963) read: “Sixty-five Percent in Test Blindly Obey Order to Inflict Pain.” Stanley Milgram’s research at Yale University had shown that the majority of participants willingly inflicted electric shocks up to 450 volts on presumably real (but actually sham) participants who made mistakes on word-matching tests. These participants obeyed only because they were told to do so, not because they were under any specific threats (Figures 32-34).

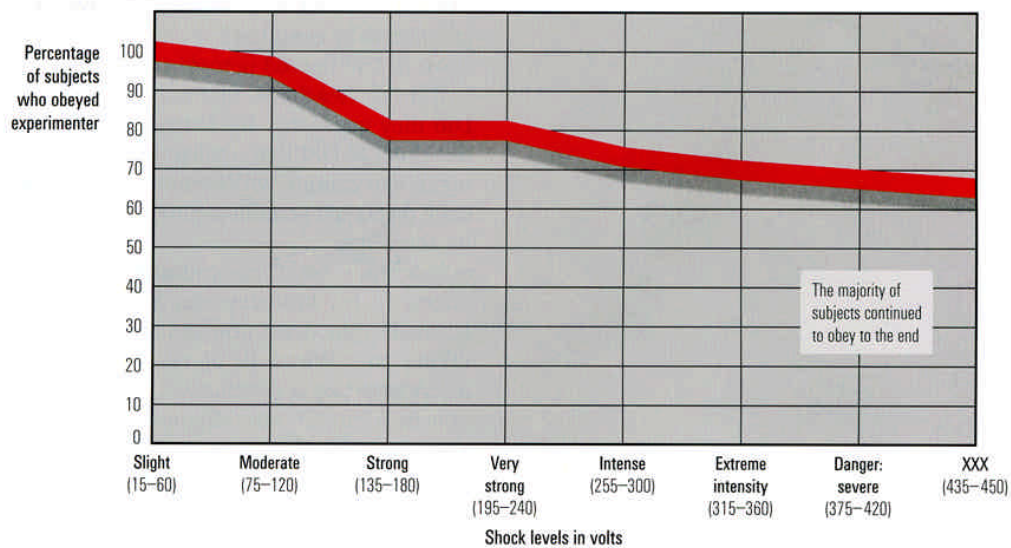


Figure 32. MILGRAM GRAPH

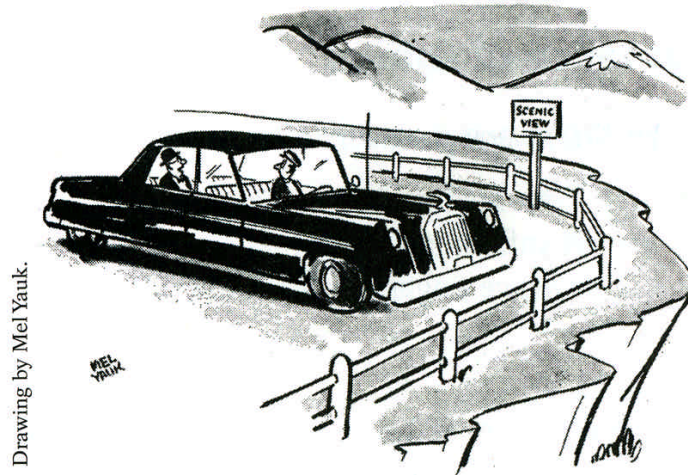
*“I was only following orders.”*

Adolf Eichmann

Director of Nazi deportation of Jews  
to concentration camps

Figure 33. EICHMANN QUOTE

*Adolf Eichmann directed the transportation of Jews and other undesirables to Nazi concentration camps.*



*“Drive off the cliff, James, I want to commit suicide.”*

Figure 34. CARTOON

*An upper class notion of obedience to authority.*

Later, at the University of San Diego, 23 of 24 law students told a client (who was only an actress, but the law students did not know this) to perjure herself, merely because law professor Steven Hartwell suggested this presumably authentic legal advice as the only hope for the client. Milgram’s experiments demonstrated with frightening lucidity that ordinary humans can be led to act immorally—even without physical threats—and, furthermore, that these humans need not be innately evil to act reprehensibly. While most of us prefer to believe that we would not mislead or distort, *as Kennedy’s pathologists certainly did*, the fact is that Milgram was right: when powerful social constraints enter the scene, our common moral senses become overwhelmed.

Milgram’s work has had both recreational and serious repercussions. In 1973, British playwright Dannie Abse produced a play, “The Dogs of Pavlov,” based on Milgram’s work. In 1976, CBS aired “The Tenth Level,” starring William Shatner as a Milgram facsimile. In 1985, the U.S. Military Academy introduced two new mandatory psychology courses based on Milgram’s work. In 1986, musician Peter Gabriel recorded a song, “We Do What We’re Told (Milgram’s 37).” Interested parties may want to consult *Psychology Today*, March/April 2002 or [www.stanleymilgram.com](http://www.stanleymilgram.com) or the book by Stanley Milgram, *Obedience to Authority: An Experimental View* (Figure 34).



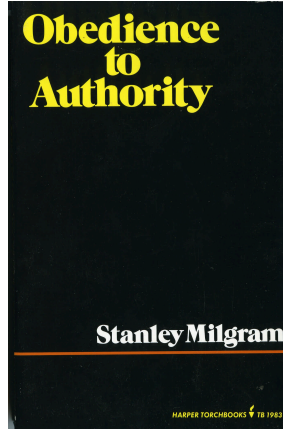


Figure 35. OBEDIENCE TO AUTHORITY

*This is the cover of Milgram's most well known book (1974), which summarizes his shocking conclusions on obedience to authority.*

M. Scott Peck echoes the same theme heard in Milgram's work in his own book (Figure 35):

Whenever the roles of individuals within a group become specialized, it becomes both possible and easy for the individual to pass the moral buck to some other part of the group. In this way, not only does the individual forsake his conscience but the conscience of the group as a whole can become so fragmented and diluted as to be nonexistent.... any group will remain inevitably potentially conscienceless and evil until such time each and every individual holds himself or herself directly responsible for the behavior of the whole group—the organism—of which he or she is a part. We have not yet begun to arrive at that point (M. Scott Peck, *People of the Lie: Hope for Healing Human Evil* 1983, p. 218; see Figure 35).

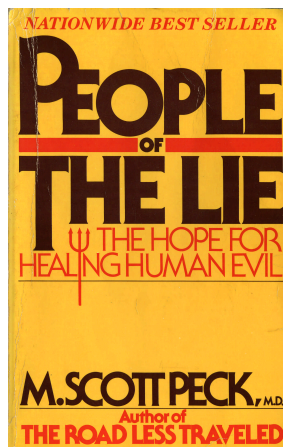


Figure 36. PEOPLE OF THE LIE: HOPE FOR HEALING HUMAN EVIL

*This is the cover of M. Scott Peck's profoundly disturbing book on human evil.*

I would add one final, personal observation: the higher in the hierarchy someone stands, the more susceptible he or she is to social pressure. The more this individual has to lose—both in prestige, money, and future success—the less likely he or she is to risk such a loss.

This case now lies before the bar of history. If we can seek truth in advertising, why can we not have truth in history? Surely our children deserve no less.

I close with a short quote from William Cullen Bryant. One of my patients, Betty Martin, who is also a former schoolteacher and who was born on November 22, gave this to me just a few days ago.

“Truth, crushed to the earth, shall rise again;  
The eternal years of God are hers;  
But Error, wounded, writhes in pain,  
And dies among his worshippers.”

--*The Battlefield* (1839), Stanza 9

## APPENDIX

### **The JFK Autopsy Materials: Twenty Conclusions after Nine Visits**

**David W. Mantik, M.D., Ph.D.**

#### **Introduction**

I examined the JFK autopsy materials at the National Archives (NARA) on four separate days in 1993, on two days in 1994, and on two days in 1995. This review included the photographs, X-rays, clothing, magic bullet, and two metal fragments removed from the skull. My most recent visit (day # 9) was on 12 April 2001. Nearly six years had passed since my eighth visit, during which time the Assassination Records Review Board (ARRB) had come and gone. During this six-year time interval my initial findings had been published in two books: (1) *Assassination Science* (1998) and (2) *Murder in Dealey Plaza* (2000), both edited by James Fetzer. To place the significant discoveries of this ninth and last visit in context, the major conclusions from my initial eight visits are first summarized. It is important to note that this succinct account is primarily intended for those readers who are already familiar with these issues. Newcomers will find supporting details in the aforementioned books. All readers should note that additional conclusions of somewhat lesser importance either have been or shall be summarized elsewhere.

## Visits # 1– 8 (1993-1995)

1. Shortly after the autopsy, a large white (i.e., relatively transparent) patch was superimposed (in the darkroom—not on a physical skull) over the posterior portion of both lateral skull X-rays during the production of altered copies. These are now part of the official collection at NARA. This left unaltered a large, dark area at the front of the skull, which made it appear that a posterior bullet had blown out the front. Even Humes, during his ARRB deposition, repeatedly expressed his bewilderment at this dark area, most likely because the white patch subconsciously confused him. An obvious corollary to this conclusion is that both original, lateral skull X-rays have vanished—without a trace.

2. Shortly after the autopsy--by using a simple, double exposure technique in the dark room—a 6.5 mm, metal-like object was superimposed over an authentic, but smaller, metal fragment (within the right orbit) on the original, frontal X-ray during the production of a copy film. This is now part of the official collection. The evidence for this conclusion derives from eight separate lines of evidence, most based on optical density (OD) measurements of the X-rays. During their ARRB depositions, the autopsy pathologists did not recall seeing this object on 22 November 1963—nor for that matter did anyone else (including the radiologist). This X-ray forgery was done with a single purpose: to incriminate Oswald via the 6.5 mm Mannlicher-Carcano carbine. Within the past several years, Larry Sturdivan, the ballistics expert for the House Select Committee on Assassinations (HSCA), has also stated his absolute conviction that this 6.5 mm object cannot be a bullet fragment. This new interpretation of the 6.5 mm object (as an irrelevant artifact) totally contradicts the Clark Panel (1968) and the HSCA (1978), both of whom interpreted this object as an authentic bullet fragment. Even more to the point, this object played a crucial role in their conclusions—which have now been thoroughly undermined. The extant frontal X-ray, therefore, also cannot be an original but must be a copy. The original has vanished without a trace. Therefore, no original unaltered skull X-ray remains.

3. At the front of both lateral skull X-rays is a fist-sized dark area that is devoid of brain tissue. This is in dramatic *disagreement* with the brain photographs, which show nearly intact brain on both sides of midline. On the other hand, it is remarkably consistent with the substitute brain hypothesis, as advanced by Douglas Horne, and which is supported by multiple lines of evidence. Furthermore, the autopsy photographer, John Stringer, told the ARRB that the photographic film that he used for the brain photographs was different from the extant film that shows the brain—which would also be consistent with the substitute brain scenario.

4. Based on OD measurements of all three skull X-rays, more brain is missing on the right side, but a substantial amount is also missing on the left. This latter conclusion, especially, is in serious disagreement with the brain photographs. On the other hand, one of the Parkland nurses, who looked inside the skull while preparing the body for departure, actually noted that a significant volume of the left brain was also missing.

5. Based on both OD measurements and on intense light observations of the X-rays, the right skull is missing anteriorly to the forehead, very near the hairline. This is consistent with both the face sheet from the autopsy and with Boswell's drawings on a skull for the ARRB.

6. The black and white prints of the X-rays, listed in Burkley's Memorandum of Transfer (26 April 1963), no longer exist. Nothing is known about their disappearance or their present location.

7. Based on 3D viewing of the autopsy photographs with a large format stereo viewer, the scalp hair on the posterior head photographs (b & w # 15, 16 and color # 42, 43) appears starched and flat, i.e., not naturally 3D. (Also see comments below from day # 9.)

8. On the posterior photographs of the head, the famous "red spot," identified by the HSCA as a bullet entry, is remarkably difficult to see in both b & w photographs (# 15, 16). Furthermore, several hairs emerge directly from this so-called wound in the b & w images; oddly, such hairs are not as obvious on the color views (# 42, 43). On the b & w images, this site does not look at all like a bullet entry wound. These observations were made with a magnifying lens that incorporated two different powers. During his HSCA testimony, chief pathologist, James J. Humes, made similar denigrating comments about the supposed entry site on the b & w images.

9. When the anatomic landmarks from the skull X-rays are integrated with similar landmarks from 3D viewing of the mystery photographs of the large skull defect a clear conclusion emerges: the large skull defect must lie at the right rear—in striking agreement with virtually all of the Parkland and Bethesda medical personnel. (Because the b & w images (# 17, 18) are cropped, the color images (# 44, 45) are essential for this exercise.)

10. There are only seven distinctly different autopsy poses of the body; all of these can be seen in popular books. Likewise, there are seven color images of the brain, none of which is in the public record. Only a sketch of one view was published by the HSCA.

11. When the shirt is buttoned, the two slits just below the collar overlap. No fabric appears to be missing—meaning that a scalpel might well have produced these slits (as has been recounted by the nurses, who cut off the clothing). The appearance of these slits is not at all consistent with the passage of a bullet (and no tests ever showed the presence of metal at this site). When a live model at NARA modeled the coat for me, the hole in the coat lay about ten centimeters (four inches) inferior to the scapular spine. This is not consistent with the autopsy photograph of the back wound, which lies much higher. When Steven Tilley, JFK Liaison at NARA, aligned the top of the shirt and top of the coat (at my request), I could see that the hole in the shirt lay 1.5 cm inferior to the hole in the coat. In order to explain the low-lying hole in the coat, partisans of the single bullet theory have necessarily had to argue that the top of the coat was bunched up (by more than four inches) according to the measurement noted just above. On the other hand, they have been oddly silent about the hole in the shirt. Since this hole appears to lie even lower, they must argue that the shirt was also bunched up, perhaps even more than the coat—despite the fact that there is no evidence that the shirt was bunched up at all.

12. CE 399 (the magic bullet) contains only four grooves, which is the expected number for a Mannlicher-Carcano bullet. On this question, the available photographs are misleading. An accurate count of the grooves can only be done at NARA.

13. As viewed at NARA, CE 843, the larger metal fragment supposedly removed from the skull, is pancake shaped and 3 x 2 x 2 mm. This is in conspicuous contrast to its appearance on the skull X-rays--where it is more nearly linear at 7 x 2 x 2 mm. No tests performed on this fragment can explain its odd transformation in shape and size, nor has

any official explanation ever been advanced for its current, and dramatically different, shape.

Visit # 9 (12 April 2001)

None of the prior conclusions are changed; on the contrary, they are reinforced.

14. There are remarkably many, tiny metal fragments widely scattered on the skull X-rays—even on the left side and on the inferior skull, including at least four near the chin on the frontal X-ray. This remarkable, and heretofore ignored, observation is hardly compatible with the passage of a single, full metal-jacketed, Mannlicher-Carcano bullet near the top of the skull, but might more easily have resulted from a hollow point or mercury bullet—or perhaps even from shrapnel from a bullet that was not counted by the Warren Commission.

15. All three skull X-rays show a (spatially consistent) fuzzy, gray cloud within the fragment trail that extends across the top of the skull; this fuzzy cloud seems more consistent with mercury (extruded from a bullet) rather than lead. I am, however, unaware of any existing experiment with mercury bullets shot into skulls that could test this conclusion; this should therefore be viewed instead as a hypothesis ripe for experiment.

16. There are 20 color transparencies (this was the only color format exposed during the autopsy) of the body, and 18 b & w negatives, yielding a total of 38 images of the body. There are 7 color negatives and 7 b & w negatives of the brain. Altogether then, the NARA set once included  $38 + 14 = 52$  independent images. On 19 May 1969, however, pathologists Humes and Boswell noted that one color negative of the brain (#49) was missing. It has never been located, which now leaves only 51 images. There are 14 X-ray films; these include 11 of the body and three of the late arriving bone fragments. [In a *New York Times* report (November 1, 1966), Fred Graham quoted the Justice department as saying that there were 14 X-rays, 25 b & w negatives, and 26 four-by-five color transparencies. My review agrees with this.]

17. There is no photograph of the Harper fragment, nor is there any documentation of it at NARA. This evidence, previously held by the FBI, has vanished into thin air. [Since this was originally written, however, John Hunt has discovered evidence for X-rays of this fragment at NARA.]

18. No matter how the stereo viewer is employed, the upper scalp hair on the posterior head photographs looks starched and flat, i.e., two-dimensional. This is how two precisely identical photographs appear when viewed in stereo. In a bizarre image over the left top of the head, the hair extends well out into space, looking as if it had been glued into position. When the paired photographs are reversed (left for right), or even when they are each rotated by ninety degrees, this odd appearance of the hair persists. This is true both of the color transparencies and of the color prints. Such a 2D effect would occur if the same photograph (of extraneous hair) had been inserted (as in a soft matte technique) into two slightly different views of the same pose. This conclusion that the upper scalp hair (just where there should be a large hole, according to the score or more of witnesses assembled by Gary Aguilar, M.D.) forms an unnatural 2D image in the stereo viewer is strikingly at



odds with the HSCA, which implied that the stereo images appeared normally 3D. By contrast, stereo viewing of the hair on other photographic pairs in the autopsy collection seems normal.

19. One photograph of the back (color transparency #38) cannot be an original, but must rather be a copy. As a corollary, one of the related color prints must be an orphan—it has no obvious parent.

20. The most important conclusion from day # 9 is this: *the left, lateral skull X-ray must be a copy*. The supporting evidence for this is totally new, simple, and straightforward. Since we now know, beyond any doubt, that at least this one extant skull X-ray must be a copy, several elementary questions immediately arise: (a) Where is the original? (b) Why is there no documentation for the missing original? (c) Why was the film copied at all? (d) Why is there no record of its copying? (e) Who copied it? (f) Why have all of the official panels, and NARA, too, insisted to the present day that all of the X-rays are originals and that none are copies? (g) Finally, and most importantly, was it copied in order to alter the image?

#### Evidence for the New Conclusions

14. These fragments are obvious to the unaided eye on close inspection. Since direct copying from the X-rays is not permitted, I employed an alternate technique to locate and to sketch all of these metal fragments. I first placed a transparent piece of graph paper over an X-ray; immediately adjacent to this (on a light box) I placed an identical, but opaque, piece of graph paper. I then located each metal fragment in two dimensions on the transparent graph paper overlying the X-ray; after finding the same site on the opaque graph paper, I outlined each fragment's size and shape with good precision.

15. This fuzzy cloud looks quite different from the obviously metallic fragments: (a) it appears translucent rather than transparent, (b) it is very large compared to the fragments, and (c) it has ill-defined, sometimes almost invisible, borders.

16. I examined and counted each of these.

17. This is based on Steven Tilley's answer to my query.

18. I brought my own large format, stereo viewer to NARA. Each pose of the body is represented by at least two, nearly identical, photographs—slight differences between each member of a pair are the necessary condition for 3D viewing. Such viewing was particularly useful for the mystery photographs with the large skull defect (b & w # 17, 18 and color # 44, 45).

19. In the photographs of the back (b & w # 11, 12 and color # 38, 39), *on the left side*, there is a small, well-circumscribed, dark area (perhaps a blood stain—or maybe even a wound) just above and to the left of the fourth knuckle. Because of the controversy over the superior-inferior level of the back wound, I had pondered whether this dark area might be the authentic back wound (moved to the left side by the simple expedient of turning the negatives over in the dark room and then making a print). To my amazement, when I examined this site closely in the pair of color transparencies, the dark area was absent from one of them. Instead, in one transparency, *precisely this same site* was

hypopigmented, with a thin, dark, horizontal line traversing its center—the dark area had been transformed!

Since the only color films exposed at the autopsy (of the body) were transparencies, the color prints must have been prepared later from the transparencies. Since the color *prints* of this particular pose of the back display the identical dark area on the left side of the back (as do the b & w images), the next question was obvious: do the color prints derive from the sole color transparency that contains the dark area? To answer this question, the color prints were examined simultaneously with the stereo viewer—from which a typical 3D image emerged. Such a stereo image can occur only if the two color prints are at least slightly different—they cannot be identical. *Therefore, there are two, slightly different, color prints, each of which must derive from a different color transparency--and each of these two transparencies must display the dark area.* But since only one color transparency shows such a dark area, one of these color prints is an orphan—i.e., there is no second color transparency with a dark area to serve as a parent for the second print. Only two reasonable possibilities exist: either (1) the body was altered at the autopsy *at this specific site* in the short time interval between these two exposures (besides seeming totally pointless, if not downright deceptive, no one has recalled such an event) or (2) a second color transparency (that originally contained the dark area) was first used to produce the second color print, after which this transparency was photographically altered to appear as it now does.

In any case, the odd color transparency with the hypopigmented area really does exist—and so does the orphaned color print. (The b & w images show no such paradoxes.) The probability is therefore very high that at least this one transparency is not an original, yet it survives today in a set of twenty images of the body, all of which are officially regarded as originals.<sup>1</sup> But if even one of these is not an original, what certainty can there now be that the other nineteen color transparencies are originals? Even more to the point, what certainty remains that none of these other nineteen has also been altered? Or, in view of already noted evidence for photo-alteration (i.e., the odd 2D hairpiece seen in stereo images of #42, 43), perhaps this question should instead be limited to the remaining eighteen.

20. On the left, lateral skull X-ray, just anterior to the cervical spine (see enclosed image) is an apparently hand drawn inscription, not previously discussed by me—or by anyone else. It looks like an upper case letter T, lying on its side, with a slight separation between the two perpendicular strokes. It is the only hand drawn symbol that I could find on any of the three skull extant X-rays. This inscription is quite transparent, as if emulsion had been removed from one side of the film. In fact, small black traces, suggesting residual islands of emulsion in a sea of gray, are still visible. OD measurements support this conclusion of missing emulsion from one side: ODs inside the inscription are 1.05, 1.44, 1.42, 0.92, and 1.42, yielding an average value of 1.25; ODs just outside are 2.29, 2.44, 2.37, 2.44, and 2.43, yielding an average value of 2.39. The ratio of  $2.39/1.25 = 1.91$ , being a little less than two, is precisely what would be expected for emulsion missing from one side.

By way of comparison, at one edge of this same film, emulsion has obviously peeled up from one side of the film; short segments of this detached layer are obvious to the unaided eye. Furthermore, where emulsion has completely separated, the shiny plastic film base is easy to see. As would be expected, light transmission is greater through this single emulsion site. That the emulsion is still intact at this same site on the other side of this double emulsion film is also obvious.

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<sup>1</sup> After my visit, I sent a specific letter of inquiry on this point to Steven Tilley. His letter of response is makes it clear that NARA considers all of the extant X-rays to be originals. None are copies.

Now if emulsion is truly missing from one side where this hand drawn inscription appears, then the interruption of the emulsion surface should be easily visible to the unaided eye (like paint scraped off an oil painting). Here then is the chief discovery of this ninth visit: *no emulsion is missing!* Even when the emulsion is closely inspected—using reflected light glancing off the surface at a wide range of angles--the emulsion appears entirely intact over this site *on both sides of the film*. Both surfaces are as slick and smooth as a freshly iced hockey rink. Emulsion is neither missing nor disrupted in any way.<sup>2</sup>

Only one explanation is possible --*this left, lateral skull X-ray is a copy*. The reason, of course, is that the emulsion of a copy film would be fully intact, yet at the same time it would faithfully record any areas of increased transmission (i.e., missing emulsion) from the original. A simpler--or more straightforward--proof of film copying is unimaginable.<sup>3</sup>

One final comment seems pertinent. Two other odd features of this particular left, lateral skull X-ray are: (a) there are no Kodak identification numbers anywhere on it and (b) this film has never appeared in any publication. It can only be seen at NARA.

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<sup>2</sup> It is essential to note at this point that the X-rays are stored inside transparent plastic sheets and that viewing is virtually always done with the X-rays inside of these sheets. For this particular inspection, however, it was critical that the X-ray film be viewed directly, with no intervening reflections. Steven Tilley was gracious enough to remove the X-ray from its protective sleeve so that the naked surfaces of the film could be viewed directly.

<sup>3</sup> Any significant new discovery in this JFK case is often measured against a single standard—i.e., is it a smoking gun? Well before all of the 60,000 new documents had been released by the ARRB (and surely before she had read all of them), one board member (Anna Kasten Nelson) assumed the garb of a Biblical prophet: she proclaimed *in print* that there would be no smoking guns in this case. In view of the new evidence described here, however, I would propose a somewhat different metaphor. To summon up an image of Moses rather than one of the prophets, this new discovery is rather less like a smoking gun than it is like a burning bush.